

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: INVUE

Report Number: P596822

Luminaire Tested: **MSA-SA4D-827-U-T3**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596822
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-827-U-T3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19311 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

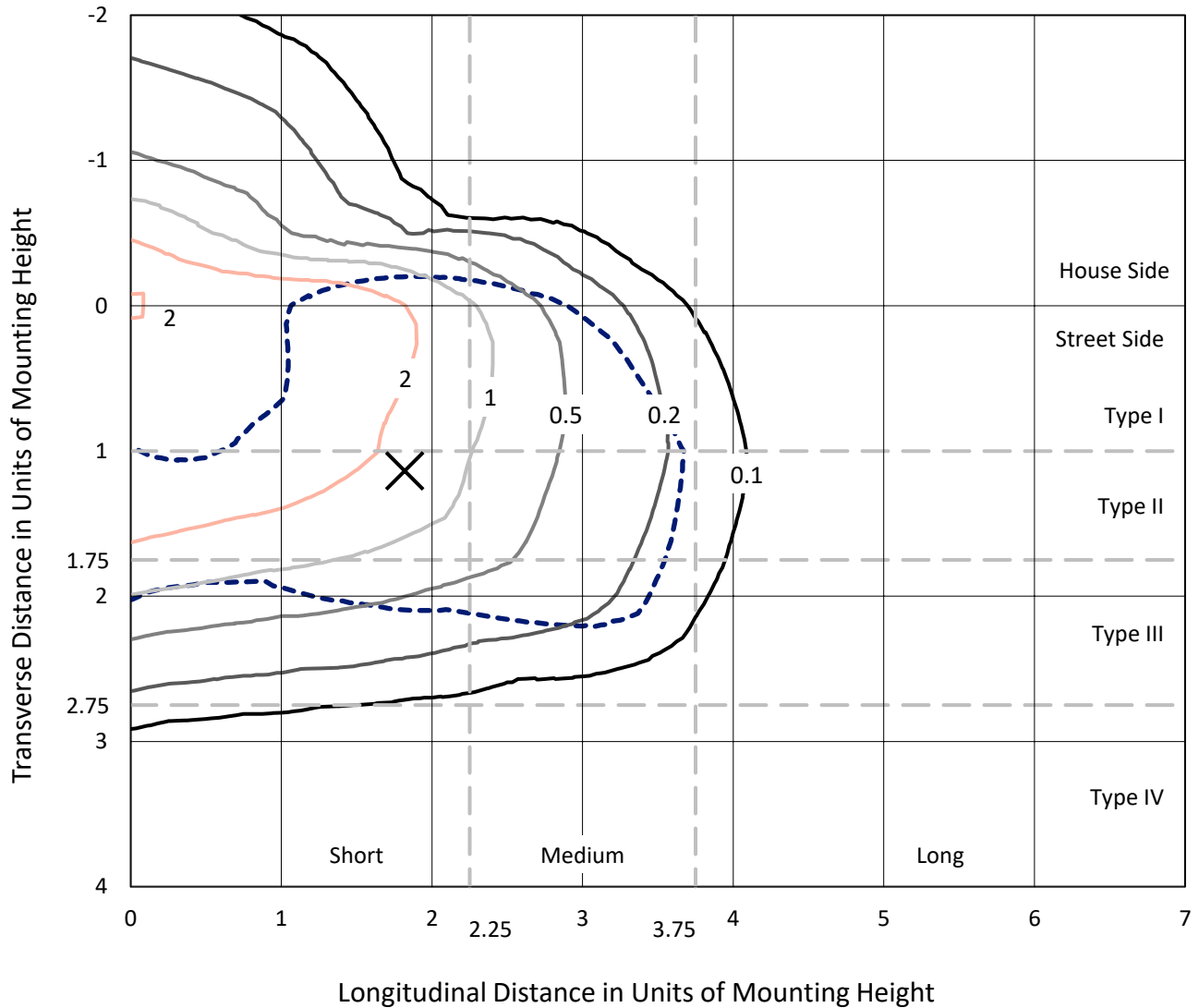
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

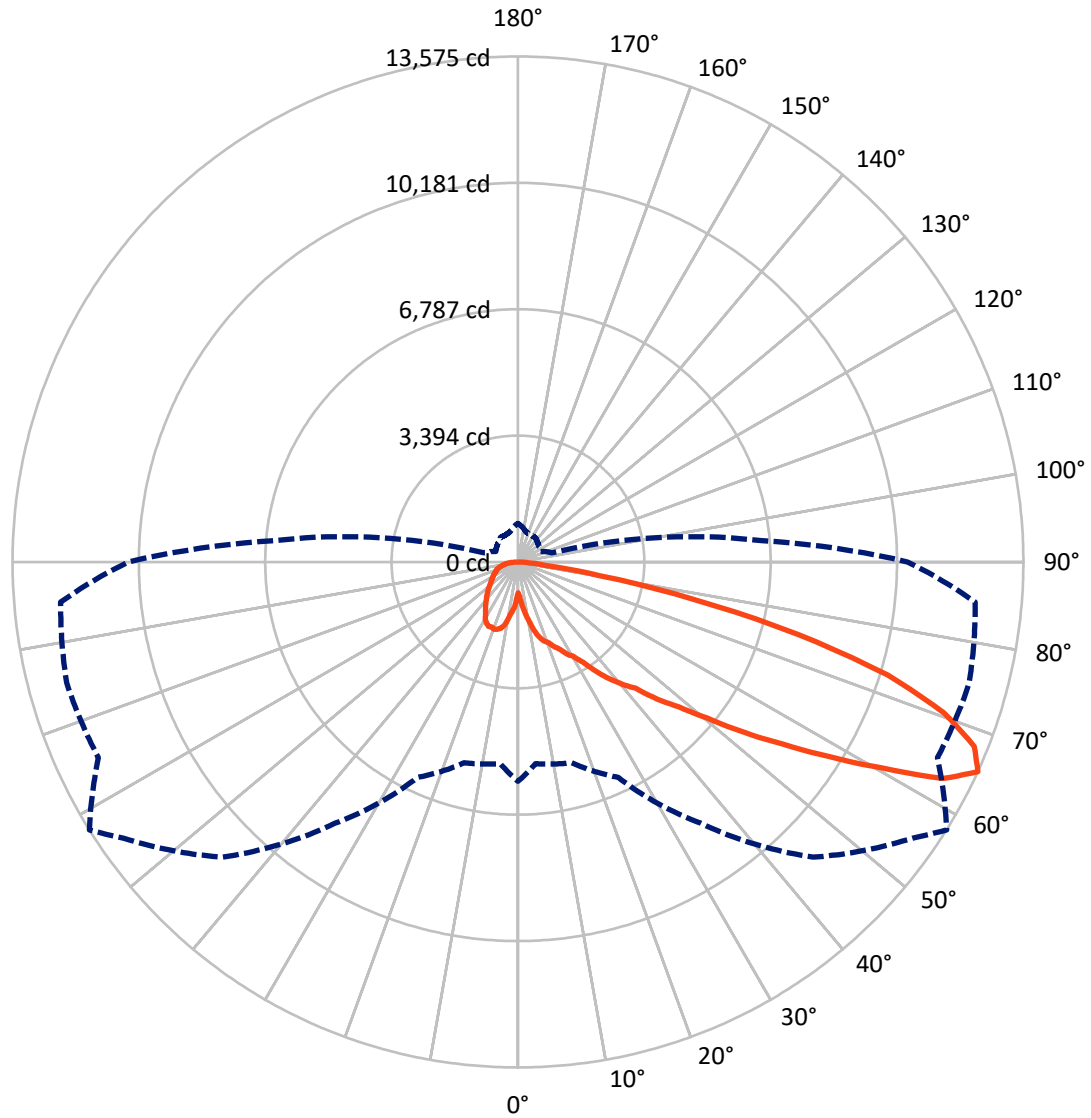
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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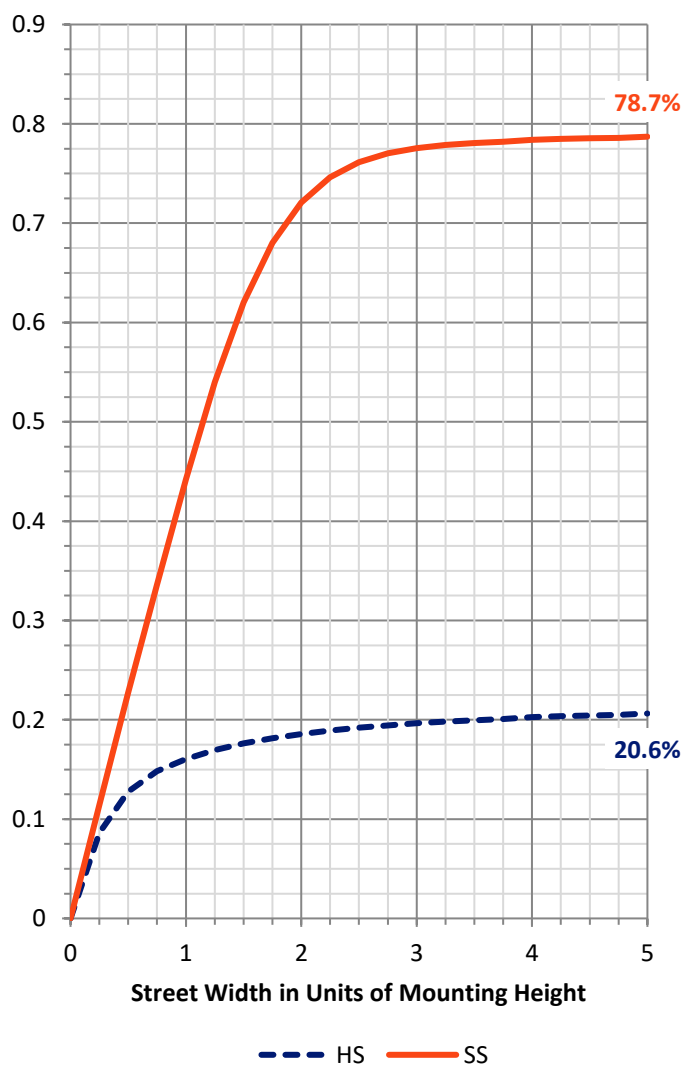
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4067.5	0.0	4067.5
	% Fixture	21.1	0.0	21.1
Street Side	Lumens	15243.5	0.0	15243.5
	% Fixture	78.9	0.0	78.9
Total	Lumens	19311.0	0.0	19311.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	0.7
10°-20°	551.1	2.9
20°-30°	1057.5	5.5
30°-40°	1745.9	9.0
40°-50°	2901.9	15.0
50°-60°	4792.4	24.8
60°-70°	5376.2	27.8
70°-80°	2444.4	12.7
80°-90°	315.3	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	19311.0	100.0
0°-180°	19311.0	100.0

Coefficient of Utilization

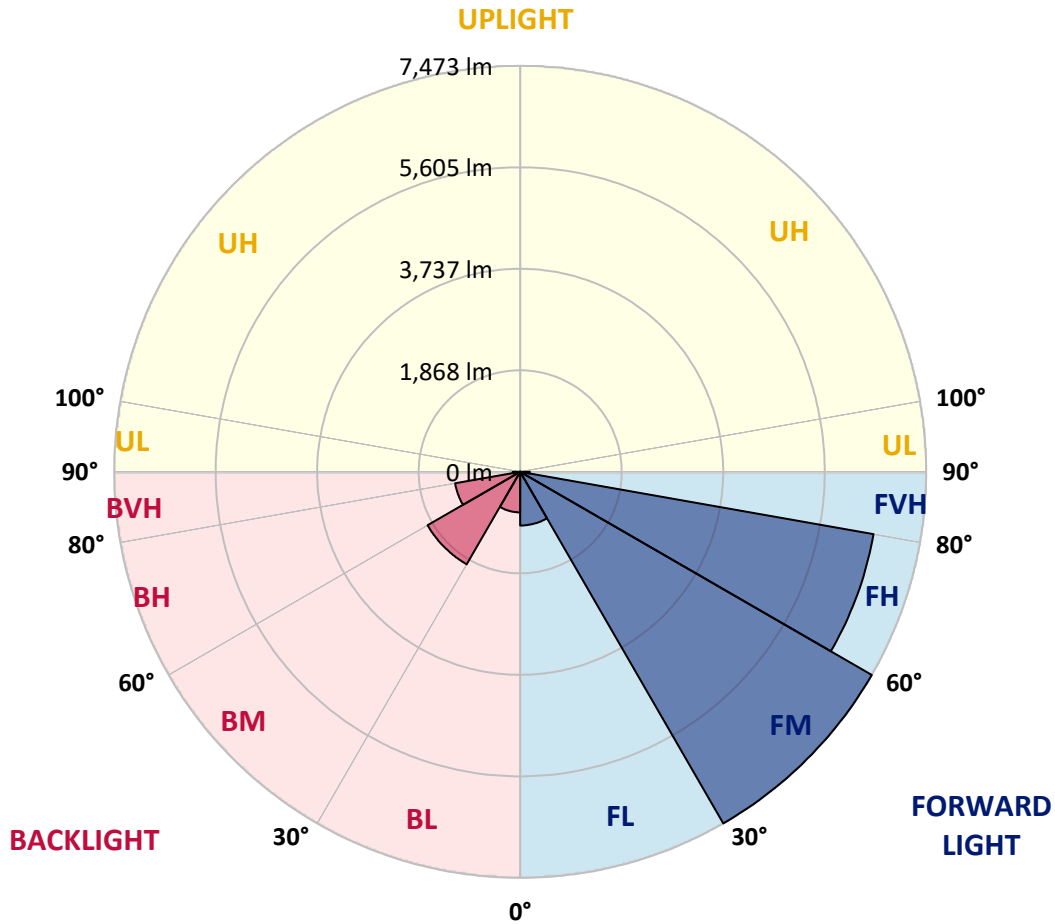


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	988.2	5.1			
FM (30°-60°)	7473.0	38.7			
FH (60°-80°)	6604.8	34.2			G3/7500
FVH (80°-90°)	177.5	0.9			G2/225
BL (0°-30°)	746.7	3.9	B2/1000		
BM (30°-60°)	1967.1	10.2	B2/2500		
BH (60°-80°)	1215.9	6.3	B3/2500		G3/2500
BVH (80°-90°)	137.7	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1
2.5°	990.0	960.2	910.4	922.4	951.4	967.4	957.8	944.9	928.0	924.8	998.8
5°	1281.9	1224.8	1201.5	1191.8	1156.4	1135.5	1171.7	1166.9	1186.2	1221.6	1294.0
7.5°	1495.0	1454.8	1416.2	1412.2	1343.8	1319.7	1367.9	1393.7	1428.3	1429.1	1527.2
10°	1609.2	1574.6	1573.8	1537.6	1532.0	1577.8	1578.6	1597.9	1602.0	1643.0	1623.7
12.5°	1733.0	1730.6	1774.9	1774.1	1825.5	1901.1	1863.3	1863.3	1874.6	1824.7	1885.8
15°	2028.2	2053.9	1971.1	1984.8	1984.8	2058.7	2056.3	2070.8	2105.4	2092.5	2065.2
17.5°	2335.4	2351.5	2259.8	2174.5	2181.0	2164.9	2222.8	2228.4	2195.5	2345.0	2312.1
20°	2533.2	2595.9	2402.9	2296.0	2316.9	2335.4	2337.8	2303.2	2286.3	2516.3	2471.3
22.5°	2777.7	2724.6	2547.7	2429.5	2460.8	2435.9	2431.1	2457.6	2480.9	2567.8	2641.0
25°	2940.9	2936.9	2724.6	2595.1	2560.6	2553.3	2602.4	2591.9	2647.4	2805.0	2759.2
27.5°	3178.2	3252.2	2875.8	2908.0	2756.0	2595.9	2753.6	2801.0	2900.7	2875.0	2977.1
30°	3638.2	3582.7	3189.4	3180.6	3008.5	2874.2	2983.6	2943.4	3122.7	3117.1	3192.7
32.5°	4013.7	4052.3	3557.8	3465.3	3337.4	3175.8	3103.4	3215.2	3311.7	3470.1	3512.7
35°	4411.0	4402.2	3934.9	3748.4	3536.9	3470.1	3559.4	3606.0	3811.1	3956.6	3855.3
37.5°	5028.6	4958.7	4423.9	4070.8	3912.4	3888.3	4041.1	3973.5	4195.5	4230.1	4287.2
40°	5602.8	5392.1	4871.0	4466.5	4214.8	4304.9	4309.7	4318.5	4437.6	4531.6	4813.9
42.5°	6148.9	6000.9	5325.4	5021.4	4650.7	4563.0	4617.7	4636.2	4937.0	5129.2	5520.0
45°	6895.2	6498.7	5978.4	5666.4	5251.4	5139.6	5101.0	5260.2	5550.6	5988.0	6323.4
47.5°	7526.5	7168.6	6672.4	6261.5	5797.5	6116.7	5898.0	5808.7	6198.7	6740.8	7274.8
50°	8050.0	7655.9	7169.4	6932.2	6858.2	7142.9	6575.1	6585.6	6942.6	7707.4	8319.4
52.5°	8455.3	8034.7	7603.7	7483.0	7896.4	8060.5	7650.3	7588.4	7849.0	8752.9	9487.9
55°	8834.1	8387.8	8054.8	8300.9	8997.3	9015.8	8986.9	8643.5	8957.1	9873.1	10697.4
57.5°	8931.4	8450.5	8229.3	8582.4	9524.1	10256.7	10544.6	9870.7	10190.0	10892.0	11733.2
60°	8430.4	8018.6	7930.2	8409.5	9808.8	10880.0	11631.9	11229.0	11109.2	11709.9	12458.6
62.5°	7404.2	6926.5	6998.1	7664.0	9508.8	11126.9	12490.8	12805.2	12079.8	12360.5	12775.5
65°	5893.1	5437.2	5581.9	6382.9	8567.1	11208.9	12929.9	13574.8	12430.5	12544.7	12326.7
67.5°	4156.1	3741.9	3924.5	4960.3	7126.8	10158.6	13005.5	13216.2	12057.3	12019.5	11101.1
70°	2354.7	2094.9	2292.8	3156.5	5030.2	8092.6	12412.8	12135.3	11388.2	10852.6	9288.5
72.5°	1080.0	990.8	1085.7	1606.8	2895.9	5384.9	10133.7	10385.4	9812.8	9142.9	7066.5
75°	574.2	542.8	583.0	802.6	1355.1	2929.7	7200.0	7766.1	7461.3	6934.6	4609.7
77.5°	427.0	402.9	422.2	520.3	723.8	1146.0	4090.9	4805.1	4920.9	4435.9	2559.8
80°	327.3	308.0	327.3	393.3	501.0	544.4	1749.1	2239.7	2550.9	2061.2	1017.3
82.5°	242.9	230.0	259.8	295.1	352.2	340.2	620.8	772.8	996.4	681.2	396.5
85°	193.0	176.9	188.2	200.2	225.2	186.6	283.9	317.7	336.2	281.5	146.4
87.5°	75.6	70.0	136.7	107.8	91.7	56.3	85.2	96.5	98.9	94.9	42.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1	829.1
2.5°	1006.9	998.8	951.4	966.6	991.6	996.4	1006.9	977.9	963.4	1016.5	1018.9
5°	1300.4	1257.0	1234.4	1236.9	1220.8	1195.8	1233.6	1258.6	1268.2	1307.6	1322.1
7.5°	1528.0	1475.7	1437.9	1394.5	1333.4	1294.0	1359.9	1408.1	1433.9	1515.9	1548.1
10°	1629.3	1587.5	1579.4	1524.8	1523.1	1522.3	1519.1	1502.2	1557.7	1549.7	1572.2
12.5°	1838.4	1829.5	1753.1	1731.4	1733.8	1731.4	1663.9	1660.7	1661.5	1735.5	1708.9
15°	2033.0	2034.6	1964.7	1885.8	1815.1	1793.4	1766.8	1754.8	1772.4	1814.3	1788.5
17.5°	2273.5	2281.5	2081.3	1956.6	1863.3	1860.9	1797.4	1722.6	1830.4	1856.1	1827.9
20°	2428.7	2394.9	2148.8	1939.7	1913.2	1840.8	1762.0	1659.1	1752.3	1815.1	1832.8
22.5°	2575.8	2517.1	2211.5	1969.5	1842.4	1756.4	1680.0	1613.2	1643.0	1712.9	1701.7
25°	2675.6	2659.5	2298.4	2041.0	1840.0	1648.6	1545.7	1503.0	1518.3	1626.9	1616.4
27.5°	2913.6	2739.9	2283.1	2059.5	1762.8	1501.4	1450.0	1404.1	1388.8	1506.3	1538.4
30°	3072.8	3001.3	2385.2	2030.6	1665.5	1380.8	1305.2	1295.6	1300.4	1433.9	1442.7
32.5°	3343.0	3157.3	2552.5	1919.6	1524.0	1291.5	1204.7	1208.7	1230.4	1327.7	1347.8
35°	3624.5	3513.5	2575.0	1840.0	1409.0	1196.6	1161.3	1133.1	1145.2	1230.4	1234.4
37.5°	4147.2	3763.6	2713.4	1717.0	1324.5	1160.5	1092.9	1068.0	1074.4	1122.7	1157.2
40°	4607.2	4266.3	2649.0	1597.9	1220.0	1112.2	1027.8	1009.3	990.0	1037.4	1059.1
42.5°	5344.7	4624.9	2627.3	1466.9	1170.9	1047.1	989.2	940.1	921.6	961.8	1001.2
45°	6082.1	5005.3	2509.1	1334.2	1101.7	1042.2	932.9	886.2	891.0	927.2	967.4
47.5°	6904.0	5516.0	2308.8	1205.5	1026.2	1018.9	876.6	856.5	870.9	911.2	951.4
50°	7875.5	6058.0	2143.2	1089.7	972.3	949.0	869.3	845.2	858.9	906.3	945.7
52.5°	8937.8	6652.3	2022.6	982.7	911.2	893.5	879.0	855.7	871.7	912.8	953.8
55°	9993.7	7195.1	1940.5	909.5	858.9	870.1	899.1	882.2	890.2	920.8	961.8
57.5°	10777.0	7481.4	1775.7	831.5	816.3	856.5	901.5	873.4	878.2	920.8	965.0
60°	11232.2	7536.1	1504.7	768.0	782.5	829.1	876.6	840.4	837.2	907.1	962.6
62.5°	11182.3	7218.5	1193.4	710.1	743.9	788.1	838.8	804.2	813.0	908.7	967.4
65°	10468.2	6569.5	949.0	661.0	697.2	743.1	807.4	793.7	836.4	973.1	1036.6
67.5°	9213.7	5621.3	762.4	615.2	653.8	712.5	829.1	865.3	883.8	1039.0	1104.2
70°	7467.0	4367.6	635.3	575.0	619.2	727.0	891.9	884.6	869.3	1007.7	1059.1
72.5°	5394.5	2994.0	558.9	535.6	576.6	683.6	893.5	854.9	835.6	920.0	957.0
75°	3375.2	1786.1	488.1	485.7	511.5	612.8	853.3	818.7	766.4	808.2	856.5
77.5°	1927.7	914.4	410.9	432.7	447.9	531.6	764.0	732.6	686.0	703.7	751.1
80°	735.8	442.3	346.6	384.4	380.4	450.3	647.4	640.1	587.1	592.7	621.6
82.5°	346.6	247.7	287.9	330.5	308.8	358.7	525.9	523.5	476.9	431.9	455.2
85°	128.7	131.9	210.7	251.7	214.7	231.6	380.4	369.9	324.9	274.2	303.2
87.5°	29.0	47.4	103.7	131.1	74.8	71.6	153.6	133.5	128.7	76.4	80.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)